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HOUSEKEEPERS' CHAT

Wednesday, October 20, 1937

(FOR BROADCAST USE ONLY)

Subject: "APPLE STORAGE NOTES." Information from the Bureau of Plant Industry, U. S. Department of Agriculture.

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This year's big apple crop brings up the question of how to store apples for best and longest keeping. That's a question that horticulturists and apple-producers know a good deal about nowadays. But when Grandfather used to put his apples in barrels down cellar for the winter, he had to trust their keeping mostly to luck. Sometimes he could have apple pie way up until Eastertime. And then again, rot or scald or some other trouble might set in and spoil the apples before Christmas. In Grandfather's day nobody understood why a nice crop of Greenings sometimes turned brown at the core during storage, or why Jonathans sometimes suffered from what looked like freckles, or why any of the other storage-diseases afflicted apples.

But some 30 years ago Department-of-Agriculture scientists began to find out. They began a study of the storage of fruit. And the apple was the first fruit to have their attention.

Today they know a great deal about the cause and prevention of apple storage diseases. They have learned about the right temperature and moisture and ventilation for apples in storage. They have worked out careful plans for constructing successful storage houses or cellars. They know which apples store best, and when these apples should be picked and how handled and packed for storing.

Perhaps you have seen one of Uncle Sam's apple-inspectors going about an orchard with his color chart for grading apples. This chart was originated by Department of Agriculture scientists as one means of finding out whether apples are at the right stage of ripeness for picking. The chart shows the ground color of the apple -- that is, the green background rather than the red surface blush. When the deep green of the unripe fruit is changing to a pale white or light greenish yellow, that is a good indication that the apple is mature enough to pick. The chart shows these different shades of green indicating different stages of ripeness in the apple. Growers and inspectors both use it. But they also use other means of testing ripeness. They observe how easily the stem comes loose in picking, the firmness of the flesh (they have a little pressure device for this), the size of the apple and the seed color. You see, ripeness is very important for good storage. If an apple is overripe, it soon breaks down or is likely to suffer from Jonathan spot or from internal breakdown. If it is not ripe enough, it will shrivel and wilt and is inclined to develop scald.



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Department of Agriculture studies have also thrown a good deal of light on the question of which apples will store well. Of course, our grandfathers knew from experience that summer and early fall apples wouldn't store well. (They are too soft.) But studies have shown not only that different varieties differ in keeping quality, but also that the same variety grown in different regions will differ. For example, McIntosh grown in the Middle Atlantic States are practically early-fall apples and not adapted to more than very short storage. But McIntosh grown in New England or New York will keep as long as 4 months. When varieties like Northern Spy, Baldwin and Rhode Island Greening grow in the Shenandoah Valley in Virginia, or in the warm irrigated valleys of the Pacific Northwest, they don't last long in storage, but when they grow in New England, New York, or Michigan, they are suitable for all winter storage. On the other hand, varieties adapted to the warmer, long-growing seasons of the Shenandoah-Cumberland region or the Pacific Northwest -- varieties such as the Stayman, Blacktwig, Winesap, and York Imperial -- will keep just as well as the long-storage varieties grown in the cooler northern regions.

Even the housewife who puts just a few baskets of apples down cellar for home use, will profit by knowing that the scientists found gentle handling of great importance in the storage of apples. Bruises and stem punctures and breaks in the skin open the way for decay -- for that blue mold or soft rot fungus that ruins so many apples every year. Even rugged apples suffer from rough handling in harvesting or grading or packing. And tender varieties, like McIntosh and Northern Spy, may be a complete loss as a result.

Now a note or two about temperature for apple storage. Grandfather knew from long experience that most apples kept best at a temperature just below freezing. And all the storage-temperature findings have agreed with that rule. In Department of Agriculture studies, the scientists reported best results from holding the storage temperature at 31 or 32 degrees Fahrenheit. The exception is the case of apples like the California Yellow Newtown, which are susceptible to a storage disease called brown core or internal browning. Because this disease is not so likely to set in at a slightly warmer temperature, the scientists advise a temperature of 35 to 38 degrees for storing these particular apples. The studies have also shown that all apples keep better if no time is lost from tree to storage. The cool storage temperature slows up the further ripening of the apple and prevents various spoilage troubles from starting. But delay in storing increases Jonathan spot, Baldwin spot, blue mold, internal breakdown, and other troubles.

By the way, whenever you buy apples at the market, you can see one Department of Agriculture discovery in use -- apples packed in shredded oil paper or oiled paper wrappers. In studying the storage trouble known as scald, which turns the apple brown, the scientists decided that the odor-producing substances given off by the apple caused scald when they became concentrated enough around the stored apple. They found that special oiled paper would absorb these gases. In every case they tested, apples wrapped or packed in this paper developed much less scald than otherwise. So nowadays this important Department of Agriculture finding is in evidence wherever apples are sold.

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